

## Drug Nutrient Interactions

### Definition/ cut-off value

Use of prescription or over-the-counter drugs or medications that have been shown to interfere with nutrient intake or utilization, to an extent that nutritional status is compromised.

### Participant category and priority level

Category	Priority
Pregnant Women	I
Breastfeeding Women	I
Non-Breastfeeding Women	III
Infants	I
Children	III

### Justification

The drug treatment of a disease or medical condition may itself affect nutritional status. Drug induced nutritional deficiencies are usually slow to develop and occur most frequently in long-term drug treatment of chronic disease. Possible nutrition-related side effects of drugs include, but are not limited to, altered taste sensation, gastric irritation, appetite suppression, altered GI motility, and altered nutrient metabolism and function, including enzyme inhibition, vitamin antagonism, and increased urinary loss.

The marketplace of prescribed and over-the-counter drugs is a rapidly changing one. For knowledgeable information on the relationship of an individual's drug use to his/her nutritional status, it is important to refer to a current drug reference such as Physician's Desk Reference (PDR), a text such as Physician's Medication Interactions, drug inserts, or to speak with a pharmacist.

### Clarification/ Guidelines

In order to assign this risk code, the name of the prescription or over-the-counter drug must be documented in the chart, as well as the condition it is being used to treat and the length of time the participant has been taking the medication. Drug induced nutritional deficiencies are usually slow to develop and most frequently occur only after long-term use. Refer to *Powers and Moore's Food-Medication Interactions*, 11<sup>th</sup> ed., by Zanetta M. Pronsky, MS. RD. FADA.

### References

1. Allen, M: Food-Medication Interactions; 7<sup>th</sup> edition; Tempe, Arizona; 1991.
2. Physician's Desk Reference; 51<sup>st</sup> edition; Montvale, New Jersey; Medical Economics Company, Inc.; 1997

**References (cont)**

3. Diet and Drug Interactions. Daphne A. Roe, M.D., F.R.C.P.
4. Handbook on Drug and Nutrient Interactions: A Reference and Study Guide.
5. Institute of Medicine: WIC Nutrition Risk Criteria: A Scientific Assessment; 1996; pp. 217-218.
6. Pronsky, ZM: Powers and Moore's Food Medications Interactions; 10th edition; 1997.

<b>Drug-Nutrient Interaction Table*</b>			
<b>Medication</b>	<b>Nutrients Affected</b>	<b>Potential Effects</b>	<b>Prevention of Interaction</b>
<b>Antibiotics</b>	• minerals, fats , protein	<ul style="list-style-type: none"> <li>• decrease in absorption due to diarrhea, nausea, and/or vomiting</li> <li>• destroys “good” intestinal bacterial flora</li> </ul>	<ul style="list-style-type: none"> <li>• Acidophilus may inhibit loss of intestinal flora</li> <li>• recommend nutrient-dense foods and fluids</li> </ul>
<b>Anticonvulsants</b>	• vitamin D, K, B <sub>6</sub> , B <sub>12</sub> , folate, calcium	• decreases nutrient stores	• recommend diet high in affected nutrients
<b>Cardiac medications</b>	• potassium, magnesium, calcium, folate	<ul style="list-style-type: none"> <li>• may cause nausea, diarrhea, and vomiting that lead to reduced food intake</li> <li>• loss of or depletion of stores; some diuretics can produce these effects</li> </ul>	<ul style="list-style-type: none"> <li>• recommend foods and fluids high in potassium and magnesium</li> <li>• counsel on methods to help with lost or decreased appetite</li> </ul>
<b>Corticosteroids</b> Used for asthma and arthritis	• calcium, phosphorus, glucose	<ul style="list-style-type: none"> <li>• long-term use may stunt growth</li> <li>• may result in bone loss</li> <li>• can affect glucose levels</li> <li>• may increase appetite and result in weight gain</li> </ul>	<ul style="list-style-type: none"> <li>• monitor weight gain and overall growth</li> <li>• counsel on diet high in calcium and vitamin D</li> <li>• encourage physical activity</li> </ul>
<b>Constipation medications</b> Differentiate between bulking agents and laxatives	• fat soluble vitamins	• long-term use of some laxatives may deplete fat-soluble vitamins	• counsel on a diet high in fiber and fluid
<b>Stimulants</b> Used for Attention Deficit Disorder (ADD)		• may decrease appetite, cause weight loss and can affect overall growth	<ul style="list-style-type: none"> <li>• monitor growth</li> <li>• recommend that child eat before taking medication to prevent decrease in appetite</li> </ul>
<b>Sulfonamides</b> Used in spina bifida	• vitamin C, protein, folate, iron	<ul style="list-style-type: none"> <li>• inhibits protein synthesis</li> <li>• decreases serum folate and iron</li> </ul>	<ul style="list-style-type: none"> <li>• avoid supplementation of vitamin C in large doses, may promote crystallization in the bladder</li> <li>• recommend increased intake of high-folate foods</li> </ul>
<b>Tranquilizers</b>		<ul style="list-style-type: none"> <li>• increases appetite</li> <li>• may result in excessive weight gain</li> </ul>	<ul style="list-style-type: none"> <li>• recommend low-fat diet, if appropriate</li> <li>• monitor weight</li> </ul>

\* This is a general drug-nutrient interaction list. Please refer to a drug reference source such as the Physician's Desk Reference (PDR) or Powers and Moore's Food-Medication Interactions for more specific information on drug-nutrient interactions of these and other drugs.

Adapted from: *Children With Special Health Care Needs: A Community Nutrition Pocket Guide*. Dietetics in Developmental and Psychiatric Disorders and the Pediatric Nutrition Practice Group of the American Dietetic Association and Ross Products Division, Abbott Laboratories, USA, 1997.